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Notice of Allowability

Application No.

09/550,451

Examiner

GWEN LIANG

Applicant(s)

DAVISON, DAN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 06/074/2004.
2. ☒ The allowed claim(s) is/are 1,4,5,8-10,21 and 31.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

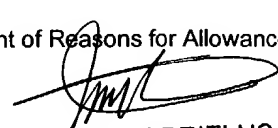
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 20040826.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20040826.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


JEAN M. CORRIELUS
PRIMARY EXAMINER

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DETAILED ACTION

This action is responsive to communications: Amendment filed on 06/074/2004. Claims 1, 4, 5, 8-10, 21, 31 are allowed.

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because this application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Allowable Subject Matter

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Claims 1, 4, 5, 8-10, 21, 31 are allowed.

The following is an examiner's statement of reasons for allowance:

The present invention is directed to a method of creating a relational data structure corresponding to elements or database objects to provide defining simultaneous multiple hierarchies by separating the relationship from the underlying data and to provide simplified location and access to nodes in a

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hierarchy by using a table for storing summary description of each hierarchy.

The brief description of some of the closest prior art is stated as follows. Uppala (U.S. Patent No. 6,279,007) is directed to An architecture for managing query friendly hierarchical values contains a data structure having node value entries for node values that make up the hierarchical values, hierarchical value entries for the hierarchical values expressed in terms of node value identifiers found in the node value entries, and hierarchy parent entries for parent-child pairs of hierarchy values.

In independent claim 1 the limitation of "forming a second database table having a plurality of entries, each entry defining a relationship between two objects of said plurality of objects, wherein each entry is associated with at least one of the multiple simultaneous hierarchies by using hierarchy identifiers; forming a third database table, said third database table having a first record representing a first one of the multiple simultaneous hierarchies and a second record representing a second one of the multiple simultaneous hierarchies; in the second database table, designating a first relationship between a first object and a second object associated with the first one of the multiple simultaneous hierarchies; and in the second database table, designating a second relationship between the first object and the second object associated with a second one of the multiple simultaneous hierarchies", taken with the other limitations of the claim, were not disclosed by, would not have been obvious over, nor otherwise fairly disclosed by the prior art of record.

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In independent claim 21 the limitation of “forming a table of reporting relationships among the members referenced in the multiple simultaneous hierarchical database relationships, wherein each one of said reporting relationships is associated with a hierarchy identifier; and forming a table of summary description of each one of the multiple simultaneous hierarchies existing in the table of reporting relationships, the table of summary description having a first record representing a first one of the multiple simultaneous hierarchical database relationships and a second record representing a second one of the multiple simultaneous hierarchical database relationships; in the table of reporting relationships, designating a first relationship between a first member and a second member associated with the first one of the multiple simultaneous hierarchies; in the table of reporting relationships, designating a second relationship between the first member and the second member associated with the second one of the multiple simultaneous hierarchies”, taken with the other limitations of the claim, were not disclosed by, would not have been obvious over, nor otherwise fairly disclosed by the prior art of record.

In independent claim 31 the limitation of “a second table providing means for: associating the object identifier of each of the plurality of objects with the object identifier of each related object to represent each defined relationship; storing a hierarchy identifier, associated with each relationship for indicating that each relationship is associated with a particular one of the multiple simultaneous hierarchies, wherein a first relationship is designated between a first object and a second object in the first one of the multiple simultaneous hierarchies and a

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second relationship is designated between the first object and the second object in a the second one of the multiple simultaneous hierarchies; and a third table providing means for: storing a summary description of each one of the multiple simultaneous hierarchies existing in the second table, having a first record representing a first one of the multiple simultaneous hierarchies and a second record representing a second one of the multiple simultaneous hierarchies”, taken with the other limitations of the claim, were not disclosed by, would not have been obvious over, nor otherwise fairly disclosed by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

G.L.
26 August 2004



JEAN M. CORRIELUS
PRIMARY EXAMINER